REVIEW

SECTION 5.1

The Nature of Chemical Reactions

1. Identify the reactants and products in each of the following chemical reactions.

a. $Fe_2O_3 + 2Al \rightarrow 2Fe + Al_2O_3$

b. $2AgNO_3 + H_2SO_4 \rightarrow Ag_2SO_4 + 2HNO_3$

2. Explain where the energy to cook food comes from when a gas stove burns natural gas, CH_4 , and oxygen, O_2 .

3. Describe three signs that a chemical reaction has taken place, and give an example of each sign.

4. Identify the elements present in the original compound using the following statement of a chemical reaction. A white solid is heated and gives off carbon dioxide, CO₂, and water, H₂O, leaving behind sodium carbonate, Na₂CO₃.

5. Contrast endothermic and exothermic reactions.

- **6. Predict** the products of the decomposition reactions of the following substances:

a. mercury oxide, HgO

b. silver oxide, Ag₂O